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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,341	12/18/2000	Gary W. Hall	349-003	5178

7590 04/16/2004

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Tempe, AZ 85282

EXAMINER

HARTMAN JR, RONALD D

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 04/16/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,341

Applicant(s)

HALL, GARY W.

Examiner

Ronald D Hartman Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/18/2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-22 are presented for examination.

Drawings

2. Figures 1-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (See U.S. Patent No. 5,891,131; Figures 1-10). See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to as not providing support for the limitations of claims 9 and 12.

As per claim 9, "so as to *equalize* the strain relationship of the surface" is not adequately described in the specification as filed. This feature has been interpreted to mean *any means* by which the potential energy of the surface of the cornea is minimized.

As per claim 12, "a torous shaped insertion" is not adequately described in the specification as filed. This feature has been interpreted to be the equivalent of *any radial* shaped insertion.

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This objection may be overcome by amending the specification to include the subject matter of claims 9 and 12.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-14, 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 8, "the first insertion" and "the finite element analysis model" in lines 2-3 both lack proper antecedent basis for these limitations in these claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajan et al., U.S. Patent No. 5,891,131.

Claim 1 sets forth the same features as claim 1 of U.S. Patent No. 5,891,131 except that U.S. Patent No. 5,891,131 does not specifically teach

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simulating a "*strain relationship* produced by... corneal deformation in response to a *physical change*" but rather teaches "simulating *corneal deformation* in response to a *corneal incision*." Therefore, since the strain relationship is merely a "strain value" that is derived from corneal deformations, although it is not specifically mentioned, it is an obvious variation of simply acquiring "a value" and therefore it is an obvious variation of step (c) wherein "a value is determined and this value is assigned to each element". Furthermore, a physical change is obviously formed by way of an incision to the cornea and the size, shape and thickness of an incision would obviously be derived by way of a modulus of elasticity to elements surrounding the incision since the properties of each incision dictate what the next step will be, and therefore, all of the claimed features and or limitations of claim 1 are adequately described by way of claim 1 of U.S. Patent No. 5,891,131 for at least these reasons.

Claim 2 sets forth the same features or limitations as claim 2 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above. Furthermore, although claim 2 teaches "changing the z coordinate of the nodes ..." and claim 2 of U.S. Patent No. 5,891,131 does not, this feature would obviously take place in order to effectively back calculate the necessary values, and therefore its inclusion would have been obvious to one of ordinary skill in the art at the time the invention was made.

Claim 3 claims essentially the same limitations and or features as claimed by way of claim 3 of U.S. Patent No. 5,891,131.

Claim 4 sets forth the same features or limitations as claim 4 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above. In addition, claim 4 refers to a physical change while claim 4 of 5,891,131 refers to a corneal ablation, however an ablation *is a physical change* and therefore they are obvious variations of one another. Furthermore, step (d) refers to "thermal shrinkage of a portion" while step (d) of U.S. Patent No. 5,891,131 refers to "an ablated portion". Since an ablation would obviously be formed by way of thermal shrinkage, via the claimed incisions, its use would have been equally obvious to one of ordinary skill in the art at the time the invention was made.

Claim 5 essentially sets forth the same limitations as claim 5 of U.S. Patent No. 5,891,131 except for the minor differences with respect to ablation and thermal shrinkage, which was already discussed above with regards to claim 4 and is applied equally herein.

Claim 6 sets forth the same features or limitations as claim 6 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above.

Claim 7 sets forth essentially the same features or limitations as claim 7 of U.S. Patent No. 5,891,131.

Claim 8 sets forth essentially the same features or limitations as claim 8 of U.S. Patent No. 5,891,131.

Claim 9 sets forth essentially the same features or limitations as claim 9 of U.S. Patent No. 5,891,131.

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Claim 10 sets forth essentially the same features or limitations as claim 10 of U.S. Patent No. 5,891,131.

Claim 11 essentially sets forth the same limitations as claim 11 of U.S. Patent No. 5,891,131 except for the minor differences with respect to ablation and thermal shrinkage, which was already discussed above with regards to claim 4 and is applied equally herein.

Claim 12 sets forth essentially the same features or limitations as claims 12 and 13 of U.S. Patent No. 5,891,131.

Claim 13 sets forth essentially the same features or limitations as claim 14 of U.S. Patent No. 5,891,131.

Claim 14 sets forth essentially the same features or limitations as claim 15 of U.S. Patent No. 5,891,131.

Claim 15 sets forth essentially the same features or limitations as claim 16 of U.S. Patent No. 5,891,131.

Claim 16 sets forth essentially the same features or limitations as claim 17 of U.S. Patent No. 5,891,131.

Claim 17 sets forth essentially the same features or limitations as claim 18 of U.S. Patent No. 5,891,131.

Claim 18 sets forth essentially the same features or limitations as claim 19 of U.S. Patent No. 5,891,131.

Claim 19 sets forth essentially the same features or limitations as claim 20 of U.S. Patent No. 5,891,131.

Claim 20 sets forth the same features or limitations as claim 21 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above, as well as the minor differences with respect to ablation and thermal shrinkage, which was already discussed above with regards to claim 4 and is applied equally herein.

Claim 21 sets forth the same features or limitations as claim 23 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above, as well as the minor differences with respect to ablation and thermal shrinkage, which was already discussed above with regards to claim 4 and is applied equally herein.

Claim 22 sets forth the same features or limitations as claim 24 of U.S. Patent No. 5,891,131 except for the minor differences already explained by way of claim 1 above, as well as the minor differences with respect to ablation and thermal shrinkage, which was already discussed above with regards to claim 4 and is applied equally herein.

Conclusion

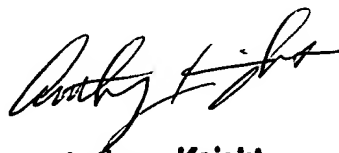
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is 703-308-7001. The examiner can normally be reached, Mon. – Fri., 11:30 am – 8:00 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached at (703) 308-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald D Hartman Jr.
Examiner
Art Unit 2121



Anthony Knight
Supervisory Patent Examiner
Group 3600